



## Notice Inviting E-Tender

E-Tender No.: ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24

Date-04/09/2023

C.I.R.T., Bhosari, Pune invites E-Tender in Two Bid Systems (Technical and Financial ) from Original Equipment Manufacturers (OEMs)/ Authorised Distributors for Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber at C.I.R.T., Bhosari, Pune.

Sr. No	Description	EMD	Last Date for Online Submission	Technical Bid Opening
01	To Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber	INR 3,30,000/-	18/09/2023 Time- 17.30	20/09/2023 Time-11.00

Interested Test Equipment Manufacturers/ Authorised Distributors of Test Equipment Manufacturers, with valid authorisation letter of Test equipment Manufacturer may view and download detailed tender documents from

### C.I.R.T.'s e-Tender portal.

[www.cirtindia.com/tendernotice.html](http://www.cirtindia.com/tendernotice.html) or <https://tenderwizard.com/CIRT>

All Bids must be submitted through the Online portal.

#### **Salient information about the E-Tender :**

1] **Who can participate in this e-Tender:** The bidders who have registered with C.I.R.T.'s e-Tender portal can only participate in this tender process.

2] **How to Register:**

a) The prospective bidders have to register with CIRT by paying **Annual Registration Charge of Rs. 2,000/- (+) G.S.T.** (as applicable) to e-tender service provider through E-Tender portal of CIRT by online payment. On completion of the registration process, the bidders will be provided user ID and Password. After receipt of User ID and Password, Bidders can log on at our e-Tender portal for downloading & uploading tender documents.

b) **Tender Processing Fee (Non-Refundable) with G.S.T.** (as applicable) is payable online on the portal of CIRT e-tendering website for applying the tender online.

Note: Banking Transactions charges are applicable for online payment

3] **Device requirement for participation in e-Tender** : Bidder should have valid Class III Digital Signature Certificate (DSC) device for participating in e-Tender. For integrity of data, its authenticity /non-repudiation of electronic records shall be in compliance with IT Act 2000 as amended from time to time. It is necessary for each user to have a Digital Certificate (DC), also referred to as Digital Signature Certificate (DSC) of Class III issued by a Licensed Certifying Authority (CA). The contact details for e-Tendering are furnished below :-

Details of the Service Provider:

Contact Persons	Telephone / Email	For vendor Registration / DSC/Any other issue regarding e- Tender Process,
Mr. Sanjay Chandak	Mobile: 9665721619 Email: sanjay.kc@etenderwizard.com	
Mr. Arijeet Kumar	Contact No : 8800445981 Email: arijeet@etenderwizard.com	
Helpdesk :	Contact No : 01149424365	

Note: Above contact details are only related to technical queries pertaining to submission / upload of E-Tender, for any other queries please email to [stores@cirtindia.com](mailto:stores@cirtindia.com) or contact Stores officer on 020 – 67345300.

4] **Availability of Tender Documents:** All bid documents (Technical and Commercial) are available ONLINE at CIRT’s e-Tender portal. The registered bidders can download the Bid from these websites. If tender form fee of Rs.2000/- plus GST is not received along with physical technical bid submission, the bid will be disqualified.

5] **Mode of Submission:** The Tender Document should be submitted in two parts:

**PART-A TECHNICAL BID** – Technical Bid shall be submitted **online** (all documents to be signed and scanned) and a hard copy of the same along with Tender form Fee and EMD vide DDs drawn in favour of Director, CIRT and payable at Pune, in the envelope superscribed as Technical Bid for “Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber” to be submitted by the bidder.

**Note : 1. Bidder should clearly mention the Tender no. and Title of the tender which is submitted.**

**2. Technical bid must be compulsorily submitted both online and hard copy within stipulated date and time, failing which the bid would stand disqualified.**

**Part –B COMMERCIAL BID** – Commercial Bid to be submitted **online only**. Commercial bid sent through hard copy will not be accepted and shall be disqualified. **The bidder should submit the Commercial Bid online only in the attached Excel Format as detailed at chapter 5.**

While uploading / submitting the documents, it should be ensured that the correct tender no. and tender title is mentioned.

6] All pages of Tender documents and Addenda / Corrigenda (if any) must be signed with proper official stamp and date by the authorized signatory of the Bidder / or authorized power of Attorney holder (relevant authorization document to be enclosed) at the lower right hand corner.

7] Bidders are advised to visit CIRT’s e-Tender portal regularly for any Addenda / Corrigenda.

**CENTRAL INSTITUTE OF ROAD TRANSPORT****Post Box No.1897, Bhosari, PUNE – 411 026 (INDIA)****Tel. (91) 20 67345300 (30 Channels)****Fax : (91) 20 67345403****Website : [www.cirtindia.com](http://www.cirtindia.com)****TENDER DOCUMENT SUBMISSION – A BRIEF**

<b>Sr. No.</b>	<b>Particulars</b>	<b>Details</b>
1.	Tender Reference No.	ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24
2.	Tender Title	To Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber
3.	Tender Issuing Authority	Central Institute of Road Transport, Pune
4.	Equipment Installation Location	Central Institute of Road Transport, Pune
5.	Tender Form Fee	Rs.2000/- (Rupees Two thousand only) Plus GST to be paid through Demand Draft in favour of “Director CIRT” * Firms having MSME registration are exempted from payment of tender form fee. <b>Note:</b> * MSME registered firm shall submit copy of MSME UDYAM registration certificate.
6.	Earnest Money Deposit	Rs. 3,30,000/-- (Rupees three lakh thirty thousand only) through Demand Draft in favour of “DIRECTOR CIRT” *Firms having MSME registration are exempted from payment of Earnest Money Deposit. <b>Note:</b> * MSME registered firm shall submit copy of MSME UDYAM registration certificate.
7.	Submission of Pre-bid queries (For Pre-Bid Query Format Refer <b>Annexure A</b> )	<ul style="list-style-type: none"><li>• On or before 1700 hrs on 11/09/2023 by email</li><li>• Email to be sent to <a href="mailto:stores@cirtindia.com">stores@cirtindia.com</a></li></ul>
8.	Pre-bid meeting Date, Time and Mode	On 12/09/2023 at 14.30 hrs. in Online & Offline mode.
9.	Pre-bid meeting Venue	Central Institute of Road Transport Conference Hall Pune Nasik Road, Pune 411 026 For online Link will be sent upon receipt of request to <a href="mailto:stores@cirtindia.com">stores@cirtindia.com</a> The request should be received on or before 1700 hrs on 11/09/2023 by email.
10.	Last Date of submission of online bids Technical & Financial	18/09/2023 at 17.30 hrs.
11.	Physical Submission of only Technical Bid	18/09/2023 by 1730 hrs.
12.	Technical Bid Opening	20/09/2023 at 1100 hrs @ CIRT, Pune
13.	Commercial Bid Opening	Date will be finalized on conclusion of technical bid evaluation.
14.	Address for Communication and Submission of Technical bids	DIRECTOR Central Institute of Road Transport Post Box. 1897, Pune Nasik Road, Pune 411026. Tel: 020-67345300
15.	Download Request for Proposal & Upload e-tender	A copy of the tender document should be downloaded from <a href="http://www.cirtindia.com/tenderNotice.html">www.cirtindia.com/tenderNotice.html</a> or <a href="https://tenderwizard.com/CIRT">https://tenderwizard.com/CIRT</a>

The Director, C.I.R.T. Bhosari, Pune 411 026 reserves the absolute right to accept / reject any or all bids at any stage of the tender process without assigning any reason whatsoever.

**Check List for Documents to be enclosed (bidder is requested to fill the relevant details):-**

(please √ in appropriate coloumn)

1	<b>Payment of Tender form fee [Non-refundable] [DD No. _____ dt. _____ Bank _____ for Rs.2000/- plus GST]</b>	
2	<b>Demand Draft favouring Director, CIRT for EMD (Refundable) (DD No. _____ dt. _____ Bank _____ for Rs.-----/-]</b>	
3	<b>Compliance Statement of Terms &amp; Conditions (As per below Table - 1)</b>	
4	<b>List of Clientele (As per below Table - 2 )</b>	
5	<b>Prebid Queries format – Annexure A</b>	
6	<b>Financial Details of the Bidder – Annexure B</b>	
7	<b>Bidder Information Sheet - Annexure C</b>	
8	<b>Anti- Blacklisting Certificate- Annexure D</b>	
9	<b>Details for Pre-requisite Infrastructure Requirements for Supply, install and commissioning of Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber _ Annexure ‘E’</b>	
10	<b>Technical Compliance Sheet - Annexure ‘G’</b>	
11	<b>Undertaking from the test equipment manufacturer in case of bidder is test equipment manufacturer - Annexure ‘H’</b>	
12	<b>Undertaking from the test equipment manufacturer in case of bid is submitted by authorised distributor - Annexure ‘I’</b>	
13	<b>Self Certification under preference to Make in India Order Certificate- Annexure ‘J’</b>	
14	<b>Self-Certification to be submitted by Non-local suppliers - Annexure ‘J1’</b>	
15	<b>Format for submission of letter from purchaser of Testing Equipment- To Supply, install and commissioning of Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber - Annexure ‘K’</b>	

**COMPLIANCE STATEMENT OF TERMS & CONDITIONS**(Please read the Terms & Conditions of Tender at Chapters 1-5)**I hereby accept all the terms & conditions of the tender including following: -**

<b>Clause</b>	<b>Chapter No./point no.</b>
<b>Pricing, Schedule of Payment Terms and Taxes &amp; Duties</b>	<b>3( 1-3 )</b>
<b><u>Warranty</u></b>	
A) Minimum 1 years (comprehensive)	<b>2( 5 )</b>
B) Free Replacement on Door Delivery basis.	<b>2( 5-a )</b>
C) Performance Bank Guarantee	<b>2( 4 )</b>
D) Extension of Warranty	<b>2( 6 )</b>
<b><u>Delivery</u></b>	
A) Door Delivery	<b>2( 2-A )</b>
B) Penalty on delayed delivery	<b>2( 2-B )</b>
<b>Pre-despatch Inspection</b>	<b>2( 1 )</b>
<b>Installation, Commissioning of Test Equipment and Training</b>	<b>2( 3 )</b>
<b>Technical &amp; Commercial compliances:</b>	
<b>Technical Specification:</b>	<b>4 (1-3 ) &amp; Annexure ‘F &amp; G’</b>
Compliance to the Technical Specification/details	
<b>Calibration:</b>	<b>4 (1-3 )</b>
Calibration certificate(s) issued by NABL Accredited calibration labs traceable to national/ international standards with necessary documentation.	
<b>Annual Maintenance Contract (AMC):</b>	<b>2( 7 b )</b>
Compliance to the AMC as per the tender condition.	
<b>Spare Parts:</b>	<b>2( 5 a-d )</b>
Bidder should declare the spare parts supply in addition to machine for maintenance or breakdown under warranty and successful bidder should give undertaking that with supply of machine will supply the declared spares too.	
<b>Performance Bank Guarantee:</b>	<b>2( 4 )</b>
Compliance to the performance bank guarantee as per the tender condition.	<b>2( 7-g )</b> <b>3 ( 2-c )</b>
<b>Customer Service Support after Warranty Period:</b>	<b>2 ( 7 )</b>
Compliance to the customer service support after warranty period as per the tender condition.	
<b>Authorized distributor for Technical Services:</b>	<b>2( 10 )</b>
If bid is submitted by an authorized distributor, then distributor shall be associated with Original Equipment manufacturer for minimum last 3 years and have expertise of installation, commissioning, maintenance & repair in most effective manner. Accordingly, the relevant documents of the OEM for authorisation shall be submitted with tender.	
In case the authorised distributor fails, it is the responsibility of the OEM to fulfil the commitments as pr undertaking Annexure ‘I’.	

In the event of any dispute, the legal matter shall be subjected to the jurisdiction of Pune Court only. We confirm with our acceptance to the instructions as given.

Name & Signature of Authorised Signatory

**Table 2**

**CLIENT LIST**

Tenderer must provide existing client list. A list of such clients shall be furnished in the following format.

Sr. No.	Name of Company, Postal Address	Name of Contact Person; contact no., email id	*Purchase Order / Work Order Details (completed projects)	Date of Installation	Feedback from Clients on their letterhead
1					
2					
3					
4					

\*Copy of Purchase order/work order/ Feedback letter from client/s must be scanned and uploaded (for minimum three clients)

Name & Signature of Authorised Signatory  
(with Company stamp)

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## Chapter 1 Instruction to Bidders

### 1. Earnest Money Deposit (EMD) / Bid Security:

Earnest Money Deposit [EMD] will have to be paid along with the tender by a Crossed Demand Draft drawn on any Nationalised /Scheduled Bank in favor of the Director, CIRT, and payable at Pune. The details of the same should be submitted in the envelope containing Technical Bid. Tender without Earnest Money Deposit will be rejected Submission of Bank Guarantee, in lieu of EMD draft will not be accepted.

Bidder shall submit the EMD of an amount INR Rs. 3,30,000/--(Rupees three lakh thirty thousand only) along with Technical Bid before the due date & time of closing of the bidding process. In case of foreign manufacturers, EMD to be in Indian Rupees (INR) only. The CIRT shall not be liable for payment of any interest on EMD.

Firms having MSME registration are exempted from payment of Earnest Money Deposit. MSME registered firm shall submit copy of MSME UDYAM registration certificate.

**A. Refund of EMD to unsuccessful Tenderers:** EMD will be refunded by cheque/DD/NEFT to the unsuccessful tenderer, after decision on the acceptance of the successful tenderer is taken or within 6 months from the date of opening of tender, whichever is earlier. Transaction will be done in INR for refund of EMD to foreign bidders.

**B. Earnest Money Deposit of successful tenderer:** EMD will be refunded by cheque/DD/NEFT to the successful tenderer only on satisfactory execution of Purchase Order (PO) and submission of **Performance Bank Guarantee**. If the successful tenderer refuses to accept the PO with terms and conditions of tenders and/or as mutually agreed terms, EMD will be forfeited and no further correspondence will be entertained in the matter. In cases, where the successful tenderer does not convey a written acceptance of order within 15 days of date of issue of purchase order, the purchase order will be cancelled and EMD will be forfeited.

**C. Validity of offer:** The offer should be kept valid for a minimum period of **6 months** from date of opening of the tender. In the case of successful tenderer, the approved prices shall remain valid till Purchase Order is fully executed. The bidder shall not withdraw or modify their Bids during the period of validity.

### 2. Tender Form Fee:

A complete set of tender documents may be downloaded by interested eligible tenderer. For MSME registered Firms are exempted from tender form fee.

**MSME registered firm shall submit copy of MSME UDYAM registration certificate.**

The tender form fee and EMD to be paid by two separate Demand Drafts and kept in two sealed envelopes. For physical submission, the two envelopes along with Technical document should be kept in one envelope superscribed "Tender for Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber -Technical bid" so as to reach CIRT, Pune by 18/09/2023 upto 17.30 of bid submission. Late tenders shall not be accepted, under any circumstances. The technical bid shall be opened as per schedule at CIRT Office, Pune in the presence of bidders who may like to be present.



### 3. Eligibility criteria of bidder

Sr. No.	TECHNICAL ELIGIBILITY CRITERIA	SUPPORTING DOCUMENTS TO BE SUBMITTED BY BIDDER
1	Bidder must be registered as per the relevant Act (e.g. Companies Act or Partnership Act or any other relevant Act) in India or as per the country of registration.	Copy of Certificate of Incorporation (Copy of registration certificate under Company Act) or (Copy of registration, under Partnership Act) or equivalent document, as applicable, issued by a Competent Government Authority to be submitted by bidder.
2	Bidder must be class I or class II local supplier Or Non-Local supplier as per order no. P45021/2/2017-PP (BE II) dated 16.9.2020 and P-45021/102/2019-BE-II Part(1) (E-50310) dated 04.03.2021 of MoCI, GOI and latest amendments, if any.	Declaration is to be submitted by Class I and Class II suppliers in Technical bid as per the Annexure J and <b>Non-Local Suppliers shall submit declaration as per Annexure J1 of this tender.</b>
3	Bidder must be Original Test Equipment manufacturer (OEM) / Authorized Distributors of Test Equipment Manufacturers, with valid authorization letter of Test equipment Manufacturer with Average annual turnover of the Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber. Manufacturer in the 3 (three) financial years (FY 2017-18, FY 2018-19 and FY 2019-20) shall be at-least Indian Rupees Five crore and Average annual turnover of the Authorized Distributors in the 3 (three) financial years (FY 2017-18, FY 2018-19 and FY 2019-20) shall be at-least Indian Rupees One crore.	Copy of the audited annual accounts of the Original Test Equipment manufacturer (OEM) & Authorized Distributors for each of the three financial years (FY 2017-18, FY 2018-19 and FY 2019-20) and a certificate (on the letter head) of the Statutory Auditor of the Original Test Equipment manufacturer (OEM) / Authorized Distributors duly signed & stamped and clearly mentioning the turnover details of each year in the three financial years (FY 2017-18, FY 2018-19 and FY 2019-20) Details to be submitted as per Annexure B
4	Bidder / principal (In case the bid is submitted by authorized distributor) should have minimum five years of experience of manufacturing of Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber Manufacturer and bidder should have sold at least five	The bidder shall submit following information. along with documentary evidence such as Copy of contract and/or work order or purchase order and copy of delivery challan and invoice for the sold equipment. Details to be submitted as per Table 2 (page 6) and Annexure C

	Equipment of Vibration & Shock machine with Climatic Chamber equipment's in last five years to the reputed organization.													
5	<p>1. Bidder shall submit the list of clients to whom they have sold the Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber in last 5 years.</p> <p>2. The bidder shall submit the letter from at least five such purchaser who have purchased the Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber during last 5 years on the letter head of purchaser about the present satisfactory operation of the sold Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber.</p>	<p>1. List of clients to whom bidder have sold the Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber in last 5 years in following format:</p> <table border="1"> <thead> <tr> <th>Sr. No</th> <th>Name &amp; address of the purchaser</th> <th>Name of the contact person</th> <th>Email ID of purchaser</th> <th>Contact number/ Mobile number of purchaser</th> <th>Presently the machine is operating satisfactory please mention (Yes/ NO)</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>2. The Letters from three purchasers during last 5 years on the letterhead of the purchaser about satisfactory operation of Testing Equipment- Vibration &amp; Shock machine with Climatic Chamber presently as per Annexure K.</p>	Sr. No	Name & address of the purchaser	Name of the contact person	Email ID of purchaser	Contact number/ Mobile number of purchaser	Presently the machine is operating satisfactory please mention (Yes/ NO)						
Sr. No	Name & address of the purchaser	Name of the contact person	Email ID of purchaser	Contact number/ Mobile number of purchaser	Presently the machine is operating satisfactory please mention (Yes/ NO)									
6	Bidder should have GST registration and valid PAN documents	Valid GST registration Certificate, PAN documents shall be submitted.												
7	Bidder must not have been blacklisted/ terminated for fraudulent practices or for non-fulfilment of contract by any of its clients including Indian government / State Government departments / Ministries / Government Undertakings or Corporations/ Government Bodies / Autonomous bodies / VMs and Public Sector Undertakings in India or abroad, as on the date of submission of Bid.	<p>Self-certification undertaking signed by the Authorized Signatory of the bidder on the Bidder's letter head. Details to be submitted as per <b>Annexure D</b>.</p> <p>In Case the tender is submitted by authorized Distributor, Self-certification undertaking is to be submitted by both the Original equipment manufacturer and the authorized distributor.</p>												

Note:

1. It is mandatory to submit the specified documents in support of the above Technical Eligibility Criteria and the Bidder shall be disqualified, if the bidder fails to provide any of the above specified documents.
2. Bidders should necessarily give the details in the formats given in Annexure/forms of this tender. All the details should be given in the prescribed format only and in accordance to the terms and conditions as mentioned in this tender.
3. Bid should be comprehensive and must consider the Scope of Work to be completed.
4. CIRT at its sole discretion may seek clarifications from any Bidder on the Technical Eligibility Criteria and any information submitted in his Bid.
5. Any Bidder submitting any information regarding price/financial quote in his Technical Bid shall be disqualified from the Bidding Process.

6. For authorised distributor of Manufacturers pertaining to countries, sharing land border with India, the manufacturer should have registration certificate of appropriate competent authority of Government of India, as per the applicable statutory Government of India Rules. The copy of valid certificate shall be submitted along with tender.
7. Bidders should submit supporting documents like Installation and commissioning report, copies of PO of purchasers during last 5 years and all other documents listed above with technical bid. This will be verified before evaluating technical specifications. In case bidder does not meet the criteria or CIRT come across any information about negative feedback from their purchasers then the bid will be not considered for further evaluation and shall be rejected.

#### **4. Terms and conditions for Submission of Tender document**

- a) Bidders should submit their Technical Bid physically and online on the e-tender portal. Commercial Bid should be submitted only online on e-tender portal as per tender schedule. Bidders are also requested to submit their Tender form fee and EMD vide Demand Draft in two separately sealed envelopes superscribed as “Tender No: ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24. “Tender title - Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber” and each one appropriately identified as “Tender Form Fee”, “EMD” as applicable.
- b) These two sealed envelopes along with the Technical documents are to be put in one larger envelope and sealed. This envelope is to be marked as Title: TECHNICAL BID for Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber, Tender form fee, and EMD for Tender No.: ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24.
- c) The Tender document shall be addressed to “The Director, Central Institute of Road Transport, Pune” and submitted to the Head-ASD, Administration Division, CIRT by post or courier on or before due date and time.
- d) The bids of applicants who physically submit their Commercial bid along with the physical technical bid shall be rejected.
- e) CIRT, Pune may, at its discretion, may extend the deadline for the submission of bids by amending the Tender Documents, in which case all rights and obligations of CIRT, Pune and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended. The prospective Bidders are advised to remain in touch with CIRT website for any update in respect of their tender.
- f) All pages of original bid and all copies of the bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The written confirmation of authorization (in form of letter on the Bidder’s letter head) to sign on behalf of the Bidder confirming the signature as a person duly authorized to sign should be attached with the technical bid of the tender.

**Opening of Tender:** Only Technical Bids will be opened on the stipulated opening date/time in physical presence of tenderers or their representatives whosoever may like to be present. Commercial bids of those who are technically qualified after scrutiny of technical suitability/acceptance of the technical bid will be opened at a later date. The communication in this regard will be sent to the technically qualified bidders by CIRT.

The L1 bidder shall be selected on the basis of final cost of equipment, accessories, including all taxes excluding AMC charges.

**Rejection of tender due to late submission:** Late / delayed and incomplete tender will be rejected. CIRT shall not be responsible for any delays in transit or otherwise due to postal and/or any other reason.

### **5. Pre Bid Meeting:**

Tenderers are requested to send their queries, if any, on tender documents to CIRT by post or by email at id: [stores@cirtindia.com](mailto:stores@cirtindia.com). The time schedule for receipt of queries and date and time of pre-bidding will be as instructed at **Tender Document submission – a brief, page no. 3**. If a bidder does not participate or submit any query, then no subsequent representations from them regarding the Technical specifications and term and conditions shall be entertained. CIRT, if required, shall issue Addendum / Corrigendum to Tender documents which, if issued, will be considered as part of Tender documents. Bidders will have to take cognizance of these Addendum / Corrigendum issued and submit Addendum / Corrigendum duly signed by Authorised Signatory of Bidder and stamped with Company Seal along with original Tender document. In case Bidder fails to do so, his tender will be outrightly rejected. If required, Bidders will be requested to give a technical presentation to CIRT after the Technical Bid opening.

### **6. CIRT's Right to Accept Any Bid and to Reject Any or All Bids:**

1. The Director, C.I.R.T. reserves the right to reject any or all the tenders or partially accept or reject any or all the tenders without assigning any reasons.
2. The Director, CIRT reserves the right to reject any or all tenders in case the tenderers have put in their own terms & conditions.
3. The Director, CIRT reserves the right to accept or reject any bid, and to cancel the bidding process and reject all bids at any time prior to placing purchase order/ contract award, without thereby incurring any liability to Bidders.
4. In case of any dispute, on any account related to the said tender & or any activity related thereto, the Director, CIRT's decision will be final and binding on the tenderers.
5. In case of cancellation of tender, EMD submitted by tenderers shall be returned to the Bidders.

## Chapter 2 Conditions of the Tender

### 1. Pre dispatch Inspection

Pre-Dispatch Inspection of the equipment shall be carried out by CIRT personnel and the expenditure towards the same shall be borne by the OEM.

### 2. Delivery

(A) Equipment/ Test Rigs shall be supplied to CIRT within a period of 120 days from the date of acceptance of P. O. The test equipment and its allied systems, sub-systems, computers, software's, other accessories as applicable shall be delivered to **CIRT on DOOR DELIVERY** basis at F.O.B. prices, without any additional cost to CIRT. All Incidental Charges shall be borne by successful bidder.

**For Foreign Vendor** – The rates shall be quoted for door delivery basis at CIRT, Pune with transit Insurance covering all type of risks during transit from vendor's works to final Destination i.e. CIRT premises at Pune-411026 (India) **Custom duty shall be borne by CIRT.**

The Bidder shall provide suitable packing of the machine/ equipment, as is required to prevent their damage without limitation, rough handling during transit. In case the consignment is received with damaged packaging, the CIRT, Pune would not accept the delivery.

The machine shall be secured and protected from mechanical damage, moisture etc., suitable for both storage and transit according to the nature of the material and mode of transport. The Bidder shall be responsible for any loss/ damage during transportation to the designated location

(B) **Penalty for delayed delivery:** A penalty @ **1.0 %** of the total cost of the test equipment will be charged to the OEM/successful bidder **per week or part thereof** of delayed delivery subject to maximum Thirty (30) days after expiry of scheduled delivery date. After that the Purchase Order shall be cancelled and EMD will be forfeited. Bank guarantee obtained for advance payment made to bidder will be encashed. Bidder will be debarred from participation in any future tenders.

**3. Installation & Commissioning** of the equipment at CIRT site shall be carried out by the successful bidder on FREE OF COST basis, within a maximum period of 30 days from the date of arrival of the consignment at CIRT. Beyond 30 days, **penalty for delayed installation and commissioning @ 1%** of the total cost of the equipment will be charged to the OEM/successful bidder **per week or part thereof** subject to a maximum 10% of cost of the equipment and subject to maximum period of 45 days, failing which EMD will be forfeited.

(A) Successful bidder shall be responsible for the safe installation/commissioning of the equipment.

Calibration Certificate (s) from NABL accredited agencies valid for at least one year, traceable

to national / international standard with necessary documentation shall be provided for the test equipment.

(B) The Bidder shall not arrange part shipments and/or trans-shipments without the permission of CIRT, Pune. The insurance cover including insuring the goods against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery/installation & commissioning shall be obtained by the Bidder in his own name and not in the name of CIRT, Pune.

**4. Performance Bank Guarantee** valid for 1½ years to ensure the fulfillment of warranty obligation shall be provided for 10 % Value of the total cost of equipment (10 % CIF Cost in the case of foreign vendors) (A specimen format of Bank Guarantee will be provided along with the Purchase Order).

We shall accept a Bank Guarantee of a foreign bank having a branch in India.

The Bank Guarantee to be in Indian Rupees only.

In case of non-performance and violation of terms and conditions by the supplier the performance bank guarantee will be revoked.

**5. Warranty:** The offered equipment/ item/material/spares/ computers/software/ utilities shall strictly conform to the specifications & must be guaranteed for satisfactory performance & against manufacturing and other defects at least for a minimum period of 1 year (Comprehensive) including preventive and breakdown maintenance from the date of commissioning of test equipment/ item /material / spares /computers/software at CIRT. During the warranty period the successful bidder shall carry out the maintenance of the equipment free of cost.

- (a) Free replacement of defective spares/rectification of any defective components of the item during warranty period should be arranged **ON FREE OF COST on DOOR DELIVERY BASIS** and installation thereof. All expenditure for door delivery such as freight, insurance, taxes, any other duties, customs duty & clearance charges (in the cases of imported items ) towards replacement shall be borne by the successful bidder.
- (b) Service call charges including all incidental charges, will not be applicable for the services provided by bidder during the warranty period.
- (c) Bidder shall have to make arrangement for the collection of defective spares. CIRT will not bear any expenditure for returning the defective spares. Defective spares or parts of equipment rejected on inspection or during warranty period shall be replaced within a week.
- (d) CIRT will not be responsible for the safe custody of such stores beyond 60 days for any loss/damage to the rejected stores. CIRT also reserves the right to dispose such defective spares.

- (e) Penalty for delayed delivery of spares beyond 45 days from date of communication from CIRT during warranty period will be @ 1% of the total cost of the spare parts to be replaced which will be charged to the successful bidder per week or part thereof subject to a maximum 10% of cost of the spares to be replaced.
- (f) If the spare parts are not replaced within 45 days of communication from CIRT. CIRT reserves the right to impose penalty appropriately.
- (g) During the warranty period, service personnel shall be deputed at site by the Bidder within three working days from the date of request from CIRT, Pune to rectify and fixing the defects of machine at the location where machine(s) are supplied. The cost of deputation of service personnel and any other associated expenditure shall be borne by the Bidder.
- (h) The Bidder to supply three (03) sets of the following manuals in hard copy and soft copy along with supplied machine(s):
  - i. Installation Manual
  - ii. Operation Manual
  - iii. Maintenance and Trouble Shooting Manual

Note: All manuals shall be latest and duly signed/stamped by the bidder.

6. **Extension of Warranty:** During warranty period the service personnel shall attend the service calls and replace / repair the equipment. If the equipment is not put into operation within a week in case of minor breakdown and a month in case of major break down then warranty period will be extended by number of days equivalent to five times the delayed days beyond the specified period of 1 years.

**7. Customer Service Support (after Warranty period)**

- a) Customer Service Support shall be provided for minimum period of 10 years including minimum warranty period of 1 years from date of installation and commissioning of equipment. In case bidder is test equipment manufacturer, the undertaking from equipment manufacturer shall be submitted as per Annexure H and in case, bid is submitted by authorized distributor of test equipment manufacturer then test equipment manufacturer shall submit the undertaking as per Annexure I.
- b) **Annual Maintenance Contract:** It is the mutual decision of CIRT and successful bidder to enter into Annual Maintenance Contract (AMC) for after-sales service after warranty period. Bidders should give the Annual Maintenance Contract charges for 9 years after warranty period of 01 years.

Manufacturer shall quote the comprehensive annual maintenance cost separately, after lapse of warranty period of One (1) year for next Nine (9) years, year-wise considering the utilization of machine in 10 years as a normal use.

Annual Maintenance Contract can be terminated at any time and it will be at the discretion of CIRT, Pune.

**The quoted AMC charges shall not be considered for financial evaluation for selection of L1 bidder. Selection of L1 bidder will be on the basis of final cost of equipment and accessories quoted including taxes.**

- c) **Service Call attendance** - The successful bidder's service personnel shall attend the service calls and replace/ repair the equipment within 48 hours, If no spares are required to be imported. If import of spares is required, the vendors shall supply such spares, if required and asked for by CIRT, within the delivery period quoted there on.
- d) **Spares Back up** –Tenderer should give guarantee for the supply of spares for the next 9 years after warranty period. All the spares used in the equipment shall be easily available and replaceable. Manufacturer / Bidder shall provide the list of spares.
- e) **Cost of Spares replaced** – In Case CIRT do not enter into a comprehensive AMC contract the cost of spares replaced, after minimum warranty period of one year, shall be billed to CIRT as per the price list provided along with the dispatch documents of the equipment at time of acceptance of Purchase Order. Reduction in prices of items, if any, shall be immediately communicated to CIRT and same shall be made applicable to the spares replaced after minimum period of one year of warranty.
- f) Penalty for delayed delivery for such replacement items shall be as stated at 2 (B) above.
- g) **Customer Service Support Bank Guarantee after Warranty Period** - Customer Service Support Bank Guarantee for 3% of the CIF Value of the test equipment shall be provided by the Bidder two months before the expiry of Performance Bank Guarantee issued towards initial warranty period of One (1) year to ensure the fulfillment of Customer Service Support for a further period of Nine (9) years.

However, if the bank guarantee is for shorter period than the period of 9 years, the same shall be renewed further for every such period, 2 months before expiry of existing bank guarantee to roll it over for up to a period of Nine years.

(A specimen format of the Bank guarantee will be provided along with the Purchase Order.)



## **8. Training of CIRT personnel and officials**

OEM/Successful Bidder shall provide free training to CIRT Personnel after successful installation and commissioning.

Training to the CIRT officials shall be given for Five (5) working days wherein the training shall be about operations, instructions, maintenance as well as trouble shooting & all other areas which are necessary for smooth functioning of Machine. Training shall be provided to at least two persons designated by CIRT, Pune. Training for the CIRT personnel shall be free of cost.

## **9. Recovery of damages**

a) The Director, C.I.R.T. reserves the right to recover the amount of loss incurred to C.I.R.T., if any due to non-execution of order / non-supply of test equipment, damaged / short supply/ wrong supply/ delayed delivery in any part or full of the equipment, from the dues of the tenderer.

### **b) Recovery of Estimated damages or Shortfall:**

- (i) Supplier should abide by and be responsible for the test equipment supplied to CIRT, and if test equipment/part/computer/software of the test equipment is not found or damaged or deficient, without prejudice or shortfall as per the technical specifications or shortfall with accessories may lead to rejection of test equipment by CIRT.
- (ii) The supplier shall abide for any recovery against shortfall in the supplies.

## **10. Authorized distributor for Technical Services:**

If bidder has an authorized distributor / distributors for technical services, then same shall be declared while furnishing the Technical Bid. Such distributor shall be associated with Bidder for minimum seven years and have expertise of installation, maintenance & repair in most effective manner. However, overall responsibility of providing technical service lies with the bidder/supplier/OEM. Authorization Certificate from the manufacturer for the dealership / distributorship / stockist status should be attached with the tender.

**11. Pending Litigation cases** if any, with CIRT in the court of law against any of the prospective bidder, will render particular bidder/Joint Ventures of the particular bidder to be disqualified for participation in Tender.

## **12. Arbitration, Legal formalities Arbitration:**

Any dispute arising during the contract period of three years and the procedure pertaining to administration or financial or technical issues shall be referred to the Technical Advisory Committee

headed by the Director, CIRT to resolve the issues. The decision of Director, CIRT will be final in this regard.

In case of dispute between both the parties, same will be referred to the Sole Arbitrator for the Arbitration Proceeding as per Arbitration and Conciliation Act, 1996 as amended by Arbitration and Conciliation (Amendment) Act, 2015. The Arbitrator will be appointed by CIRT or with consent of both parties. The venue of the arbitration proceeding will be at Pune and the cost of arbitration proceeding will be borne by each of the party as to 50%. The language of the Arbitration Proceeding will be in English. The District Court at Pune will have the administrative jurisdiction for the Civil and Arbitration Proceeding.

In case of non-settlement of disputes through arbitration, the appropriate Indian Laws will prevail.

**Force Majeure Clause:**

The services of both parties are subject to FORCE MAJEURE condition. While every effort will be made to carry out the obligation of the contract, the successful bidder / CIRT will not be liable for non-performance either in whole or in part of the contract for any delay in performance thereof in consequences of the Force Majeure Event such as Acts of GOD, Floods, War, Pandemic situation ( if declared by Central / State Government ) or any other cause beyond control. The decision of Director CIRT will be final in this regard.

### **Chapter 3 Schedule of Requirements**

**1. Pricing:**

**a) For Bidders in India**

**Price quoted** shall be on the basis of “**Door Delivery**” at **CIRT Bhosari, Pune-411026** F.O.R. destination. All incidental charges such as packing, forwarding, freight and transit insurance charges shall be borne by successful bidder.

**b) For foreign bidders**

Price quoted shall be on the basis of “**Door Delivery**” at CIRT Bhosari, Pune-411026 F.O.R. destination with transit insurance coverage upto final destination (CIRT Bhosari, PUNE 411026, premises)

**c) Price & Payment**

- i) Price shall be quoted in INR only. If there is a discrepancy between words and figures, the amount in words shall prevail.
- ii) If the bidder is from overseas countries, then Bidders are requested to quote in **Indian Rupees only.**

**Note : Price should be quoted only in “Commercial Bid”**

## **2. Schedule of Payment:**

- a) 10% advance along with Purchase Order on submission of Bank Guarantee for equivalent amount, of validity of 12 months.
- b) 20 % against delivery and post preliminary inspection at CIRT, Pune.
- c) 70 % after successful installation, commissioning, training and satisfactory inspection report of the equipment and after receipt of the Performance Bank Guarantee valid for 1½ years to ensure the fulfilment of warranty obligation. (for 10 % Value of the total cost of equipment (10% CIF Cost in the case of foreign vendors).

## **3. Taxes & Duties:**

- a. The rates of G.S.T. or any other taxes, if chargeable, shall be indicated separately or else it will be presumed that the quoted price is inclusive of taxes.
- b. Customs Duty: CIRT will avail Custom Duty Exemption, as applicable, under Government Notification No. 51/96-Customs dated 23.07.1996, No. 24/2007- Customs dated 01.03.2007; No.43/2017-Customs dated 30.6.2017 being Scientific and Industrial Research Organisations (SIRO) recognized R&D Institution. However, the tenderer should quote the application rate of Custom Duty, if any, in the appropriate column for information.

## **Chapter 4 Specification & Allied technical details**

### **Specification:**

- 1) Technical Specification:** Testing equipment – Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber shall be in compliance to the Technical Specification as attached **Annexure - F**.
- 2)** Complete specification of the Testing equipment's offered shall clearly be specified. Basic equipment shall be the equipment capable to perform required basic functions asked for. Brand name, Trade name, Model No., part No. Item description etc. shall be described clearly in the bid. Printed technical literature / catalogue stating all the technical parameters must be enclosed along with the bid, failing which the tender will be rejected. Rates shall be quoted separately for the basic equipment, add on/optional equipment's, Offers having confused technical specifications, terms and conditions and prices will be liable to be rejected.
- 3)** Pre-requisite Infrastructure Requirements for Installation & Commissioning of the machine - Bidder shall submit the details of Pre-requisite /Civil/Electrical/Any other Infrastructure requirements for Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber as per the enclosed **Annexure – E**.

## Chapter 5 Price Schedule for bidders to quote prices

### CENTRAL INSTITUTE OF ROAD TRANSPORT

Post Box No.1897, Bhosari, PUNE – 411 026 (INDIA)

Tel.: (020) 67345300 (30 Channels)

Fax : (020) 67345403

Website : [www.cirtindia.com](http://www.cirtindia.com)

#### TENDER DOCUMENTS

#### Part B – Commercial Bid

**TENDER NO :** ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24

**ITEM** Supply, install and commissioning of Testing Equipment-Vibration & Shock machine with Climatic Chamber

**EMD** As per Tender Document.

1. Commercial bid is to be submitted online only.
2. Hardcopy not to be submitted.
3. Please enter the values in yellow cell only.

## Price Schedule - 1



# Central Institute of Road Transport



**NIT No. ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24**

**Name of Work: Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber**

### SCHEDULE OF ITEMS

**Name of the Bidder**

#### Price Schedule - 1

Sr. No.	Test Equipment	Qty.	Rate in INR	Amt. in INR Excl. of Taxes	Add Tax %	Tax Amount	Total Amt. with Tax
1.0	Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber Meeting the requirement as specified in the Technical specification in Annexure F enclosed.	1		0		0	0
2.0	Custom Duties if applicable						
3.0	Other charges if any						
4.0	<b>Total of Price Schedule -1 including above Taxes &amp; Duties</b>						<b>0</b>
5.0	Total in Words						

#### Instructions:

1	Please enter the values in yellow cell only.
2	Please fill the Price Schedule 1 and Price Schedule 2. Filling up of Price Schedule is mandatory else Commercial Bid will be disqualified.
3	Commercial bid is to be submitted online only.
4	Hardcopy not to be submitted.
5	The total price should be F.O.R. destination.

**Price Schedule - 2**



**Central Institute of Road Transport**



**NIT No. ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24**

**Name of Work: Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber**

**SCHEDULE OF ITEMS**

**Name of the Bidder**

**Price Schedule - 2**

Sr. No.	Test Facility For	Amt. in INR Excl. of Taxes	Add Tax %	Tax Amount	Total Amt. with Tax
<b>Annual Maintenance Contract (AMC)</b>					
1	(Comprehensive Annual Maintenance Cost year-wise after completion of warrantee period of 1 years as per the terms & condition of tender)				
1.1	AMC (Comprehensive) in 2 <sup>nd</sup> year			0	0
1.2	AMC (Comprehensive) in 3 <sup>rd</sup> year			0	0
1.3	AMC (Comprehensive) in 4 <sup>th</sup> year				
1.4	AMC (Comprehensive) in 5 <sup>th</sup> year				
1.5	AMC (Comprehensive) in 6 <sup>th</sup> year				
1.6	AMC (Comprehensive) in 7 <sup>th</sup> year				
1.7	AMC (Comprehensive) in 8 <sup>th</sup> year			0	0
1.8	AMC (Comprehensive) in 9 <sup>th</sup> year			0	0
1.9	AMC (Comprehensive) in 10 <sup>th</sup> year			0	0
2.0	Other Charges				

**Instructions:**

1	Please fill the Price Schedule 1 and Price Schedule 2. Filling up of Price Schedule is mandatory else Commercial Bid will be disqualified.
2	Commercial bid is to be submitted online only.
3	Hardcopy not to be submitted.
4	Please enter the values in yellow cell only.

Note:

1) AMC Price:

- a) Price shall be quoted in Indian Rupees only.
- b) If the bidder is from overseas countries, then Bidders are requested to quote in Indian Rupees.

2) At the time of submission of Financial Bid, every bidder has to quote AMC rates in given format for 9 years which will be effected after 1 years of warranty period, if CIRT enters into AMC Agreement with the bidder.

## Annexure A

### Prebid Queries format

Name of Organization: \_\_\_\_\_ Date: \_\_\_\_\_  
Tender Title : Supply, install and commissioning of Testing Equipment- Vibration & Shock machine with Climatic Chamber  
Tender No.: ADM:STR:3164:MOF-15:Vibration & Shock machine with Climatic Chamber:2023-24

SI. No.	Page no.	Clause no.	Clause	Suggestion / Query

- Email to be sent to [stores@cirtindia.com](mailto:stores@cirtindia.com) in pdf format.

**FINANCIAL DETAILS OF THE ORIGINAL TEST EQUIPMENT MANUFACTURER (OEM) / Authorized Distributors**

(On the letterhead of Statutory Auditor of the Original Test Equipment manufacturer (OEM))/ **Authorized Distributors**

*1. AVERAGE ANNUAL TURNOVER*

Annual Turnover in INR			Average Annual Turnover (FY 2017-18, FY 2018-19 and FY 2019-20) in INR
Year 1 (FY 2017-18)	Year 2 (FY 2018-19)	Year 3 (FY 2019-20)	

Date:

Name of the audit firm:

Seal of the audit firm  
(signature, name and designation of the authorized signatory)

Registration Number: Address of the audit firm: UDIN No.:



## Annexure C

### BIDDER INFORMATION SHEET

1	<b>Name &amp; Full Address of the firm</b> (If there is a separate address for manufacturing unit/sales office/ godown, please mention specifically)	
2	Telephone/Telex/Fax/E-Mail/mobile number	
3	Name of contact person[s]/Representative Telephone/ Fax/ e-mail/mobile number	
4	Whether your firm is registered under Shop Act/ SSI Unit/ Other categories[specify and attach relevant documents]	
5	<b>Product/Supply Range</b> [Please specify brand/make dealt by your firm] Technical literature/brochures/leaflets are to be attached for technical product. Pl. attach separate sheet, if space provided is insufficient.	
7	<b>Reputed clients' list of your firm:</b> [preferably in and around Pune & Maharashtra, if you are a local vendor]	[Pl. enclose separate sheet]
8	<b>Number of Equipment Sold in last five years</b>	
9	<b>Purchase order ; Year of supply ; delivery challan; Invoice (Please provide copies of the documents for the sold equipment)</b>	
10	<b>Bank details</b>	
	Name of the Beneficiary & Address	
	Name of Bank & Address	
	Account No.	
	Branch Code	
	IFSC Code	
	MICR Code	
	SWIFT Code / Routing No.	
11	<b>GST IN No.</b>	
12	<b>HSN Code</b>	
Seal		(Signature of Authorised Person)
Date:		<b>Name</b>
		<b>Designation</b>

## Annexure D

### ANTI-BLACKLISTING CERTIFICATE

(To be forwarded on the letterhead of the Bidder)

I / We hereby certify and confirm that M/s. .... (Name of the Bidder) that the company/ any of the promoter/s / director/s are not blacklisted or barred by Government of India (GOI) / any other entity of GOI or any state government/ department / local government / agency in India or from abroad from participating in Project/s, either individually or as member of a Consortium as on the (Bid Due Date).

We further confirm that we are aware that our tender will be liable for rejection and EMD will be forfeited, in case any material misrepresentation is made or discovered with regard to the requirements of this tender at any stage of the Bidding Process or thereafter during the agreement period.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of .....

## Annexure-E

### **Pre-requisite Infrastructure Requirements for Installation & Commissioning of the Testing Supply of Vibration & Shock machine with Climatic Chamber**

<b>S.N.</b>	<b>Description</b>	<b>Requirement</b>
<b>1.0</b>	<b>Civil Infrastructure -</b>	
1.1	Test equipment/ machine store area requirement	
1.2	Fire Protection facilities (devices) if any	
1.3	Any other specific requirement for Civil Foundation work	
<b>2.0</b>	<b>Electrical Infrastructure -</b>	
2.1	Provision of Internet for test equipment/ machine	
2.2	Specific air conditioning	
<b>3.0</b>	<b>Safety requirements</b>	
<b>4.0</b>	<b>Miscellaneous</b> Provision of power, air, light, water, etc, as required during installation.	
<b>5.0</b>	<b>Any other specific requirements</b>	

**Technical Specification for VIBRATION & SHOCK TEST MACHINE WITH CLIMATIC CHAMBER****1.0 SCOPE:**

1.1 To supply and install Vibration & Shock machine with Climatic Chamber

1.2 The system shall be designed, manufactured, erected and commissioned for vibration & shock test of components.

**2.0 Vibration & Shock machine with Climatic Chamber shall have following features**

Sr.No.	Parameter	Description
1.	Name of Equipment	Vibration & Shock machine with Climatic Chamber
A	<b>Climatic Test Chamber</b>	
1.	Inside Size (minimum)	100 (L) x 100 (H) x 100 (W) cm
2.	Temperature range	(-)40°C to (+)150°C
3.	Resolution	0.1 °C
4.	Temperature Accuracy	(±)0.5 °C
5.	Temperature Gradient	(±) 2°C
6.	Temperature Ramp up/Ramp down	2°C/min.
7.	Humidity Range	20% Relative Humidity to 98% Relative Humidity
8.	Humidity Accuracy	±3%
9.	Humidity Gradient	±5%
10.	Insulation	The equipment shall have: <ul style="list-style-type: none"> <li>• High density low K factor bonded rock wool insulation to avoid the atmospheric water vapor condensation on the exterior of the unit and non-hygroscopic nature.</li> <li>• Body temperature shall be maintained in between 20°C to 35°C in extreme low &amp; high temperature conditions.</li> </ul>
11.	Internal Finish	The equipment shall have: <ul style="list-style-type: none"> <li>• 18 SWG 304 grade stainless steel with completely welded finish.</li> <li>• No joints and sharp edges inside workspace.</li> <li>• All the joints shall be leak proof for prevent air &amp; water leakage.</li> </ul>
12.	External Finish	The equipment shall have: <ul style="list-style-type: none"> <li>• 16 SWG GI sheet with powder coating finish. CNC based made outer body with fine finishing joints without any projection of fixtures.</li> <li>• Built in control panel provided on exterior body without any projection. All Hinges &amp; door locks are stainless steel.</li> </ul>
13.	Air flow system	The equipment shall have air circulation within the chamber shall be laminar air flow provided with suitable capacity of fan motor and impeller for uniform distribution of temperature and humidity to maintain within specified limits.
14.	Movement	The equipment shall have: <ul style="list-style-type: none"> <li>• Electric powered motorized track movement shall be incorporated for easy integration of Vibration Shaker and Chamber.</li> <li>• All proper safety protections shall be incorporated.</li> </ul>

15.	Chamber Control System	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• 7" HMI with Microprocessor based PLC control and monitoring system for chamber, USB and Ethernet interface for communication, programming software, Software features: Graphic and Symbolic programming.</li> <li>• Numeric &amp; graphic display of temperature, humidity pressure, time and cycle, loop, time remaining , real time and history data , help menu, auto start, print , data to import on excel format etc.,</li> <li>• 20 programs with 20 segments nested in loops minimum.</li> </ul>
16.	Heating system	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Fast responding U-shaped jacketed air heaters shall be used to achieve the desired positive temperature.</li> </ul> <p>Air heater placed in the conditioning plenum shall be such that there is no direct radiation from the heaters on the test specimen.</p>
17.	Humidification System	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• A low-pressure free vapor moisture generator using direct vaporization system shall be used for stimulating the required humidity.</li> <li>• Reservoir with automatic float switch / valve shall be provided for maintain at appropriate level for continuous water supply to the humidity tank.</li> <li>• The saturated humidified air to be circulated into the workspace.</li> </ul>
18.	De-humidification system	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• A refrigeration based de-humidification system to avoid the condensation forming on test specimen as well as control the lower relative humidity.</li> <li>• The desired level of lower humidity achieved by maintaining the precise dew point temperature.</li> </ul> <p>This system shall work on refrigeration cooling control through the bare copper coils attached with the main cooling evaporation coil.</p>
19.	Control instrumentation	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Programmable microprocessor powerful PID controller for temperature with digital display, No. of programs &amp; segments each could be stored in ramp &amp; soak period settable in hours &amp; minutes.</li> <li>• No. of loops for re-appear the program.</li> <li>• Control readout of actual and set-point values &amp; calibration capability for actual and set values.</li> <li>• PC communication with user friendly software. RS232/485 communication port for operating the chamber through PC as well as data logging facility.</li> <li>• Tubular display &amp; graphical display shall be provided with complete history printing &amp; storing facility.</li> </ul>
20.	Cooling system (Refrigeration)	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Air cooled condenser with single stage refrigeration system with ozone friendly CFC free or equivalent refrigerant.</li> <li>• Semi sealed compressor for low temperature. The reputed make compressor shall be used in the system.</li> <li>• Compressor mounted with vibration free bushes.</li> <li>• All the copper lines made such as vibration free eliminators.</li> <li>• Liquid receiver &amp; Filter well balanced Hi cool (CE approved) Condenser fan with safety grill.</li> </ul>

		<ul style="list-style-type: none"> <li>• All the refrigeration components with Pressure gauge, High pressure &amp; Low pressure cut off switch, expansion valves etc.</li> <li>• Ready hose connectors for pressure measuring lines &amp; HP/ LP switch.</li> <li>• The evaporator coil shall be in grooved type anti-corrosive fins for using in high humidity conditions.</li> <li>• The entire refrigeration system with adequate safety protection against excessive and high/ low pressure cut-off switch configured with compressor power supply to prevent the damages.</li> <li>• Pressure gauges to read the standby &amp; running pressure.</li> </ul>
21.	Temperature and Humidity Sensor	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• PT100 (RTD) sensor shall be used for temperature. The temperature reading accuracy shall be <math>\pm 0.5</math> °C in range between -40°C to +120°C. PT100 sensor shall be made of 304 grade stainless steel solid materials.</li> <li>• To sense the relative humidity Hygroclip sensor shall be provided to transmit the humidity for direct RH% reading on the screen or on the digital controller.</li> <li>• The Humidity sensor reading accuracy shall be <math>\pm 5</math> % RH in range between 20% RH to 95% RH.</li> </ul>
22.	Door & Silicon Gasket	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Robust type chrome finished heavy duty hinges shall be fitted on the right-hand side of the chamber with full front opening single door.</li> <li>• Specially designed silicon gasket on chamber and on the door to fit and joint properly interlock inner and outer chamber.</li> <li>• To close the door suitable size of airtight locking arrangements shall be provided. Both double lined gaskets shall be provided without any corner joints.</li> </ul>
23.	Viewing window & Lamp	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• The multi plane window consist of toughened clear glass sealed with silicone and separated by spacers to form a completely vacuum window.</li> <li>• Defogger heaters provided with a control to activate in cold &amp; humidity conditions. Suitable lighting shall be provided to view the specimen under test.</li> <li>• In case temperature range is in extreme conditions the lamp fixed on window frame from outside with stainless steel covering fixture.</li> </ul>
24.	Electrical Components	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Single Phase Preventer (SPP) to prevent form single phasing, high and low voltage control, variable set for minimum and maximum output phase sequence to protect form reverse directions of fan motors and compressors.</li> <li>• Contactors shall be used for fan motor, compressor &amp; heater main circuit.</li> <li>• MCCB 3 pole with NO/NC connectors (Fault/Trip) shall be used for overload protection and short circuit trip. Solid-state Relays for Dry heater &amp; Wet Heater.</li> <li>• Individual MCB's for main circuit, Dry heater &amp; Wet Heater.</li> <li>• Compressors start Delay Device Auto restart delay in power fail or voltage fluctuations.</li> </ul>
25.	Safety Features	<p>The equipment shall have:</p>

		<ul style="list-style-type: none"> <li>• High temperature digital safety controller with audio &amp; light Warning signal for the protection of the specimen.</li> <li>• High/low voltage cutoff single-phase preventer.</li> <li>• Overload relay for chamber Motor (3 phase protection).</li> <li>• Emergency stop button.</li> <li>• Overload relay for compressor (3 phase protection).</li> <li>• Oil return device in the refrigeration system to prevent oil flow in lines.</li> <li>• High Pressure &amp; Low pressure cut off switch in refrigeration.</li> <li>• Pressure gauge to monitor the refrigerant volume in PSIG.</li> <li>• Water level float switch for cut-off the wet heater supply.</li> <li>• Water level indicator to know the water level in the reservoir.</li> <li>• Miniature circuit breakers for Heating and Humidity system.</li> </ul>
26.	Power Supply	415V AC, 50 Hz, 3phase.
27.	Shelves & Trays	2 Nos. SS shelves shall be provided.
28.	Port Hole	1 no 50mm diameters with silicon plug shall be provided.
29.	Manual and training	<ul style="list-style-type: none"> <li>• User and maintenance manuals shall be provided.</li> <li>• Onsite training at CIRT shall be provided.</li> </ul>
30.	Calibration	Onsite NABL calibration after commissioning of the machine and Calibration certificate traceable to ISO/IEC 17025 accredited laboratory shall be provided.

<b>B)</b>	<b><u>Vibration &amp; Shock test System Specification</u></b>	
1.	Minimum sine vector force	3500 Kgf with suitable random force rating
2.	Displacement amplitude range (peak to peak)	0 to 76 mm Peak to peak
3.	Required Acceleration Level in g	0 to 60 g
4.	Required Velocity in M/Sec	0 – 1.8 m/s
5.	Frequency Range of Operation Shaker Cooling System	5Hz– 3 KHz Air cooled
6.	Pay Load capacity	60 kg (minimum)
7.	Power supply	440 V AC $\pm$ 10%, 50 Hz, 3 Phase, or single phase 230VAC $\pm$ 10%, 50 Hz
8.	Type of Cooling	The equipment shall have Forced Air Cooling using a Centrifugal Blower system
9.	SINE Software, Random Software, shock Test Software, Re calibration Software	
10.	Mechanism	Suction type
11.	Air delivery	The equipment shall have Horizontal direction with acoustic silencer
12.	Safety interlock	The equipment shall have Propeller direction

13	Shaker Control Application Software: Random Vibration Control	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Frequency Range: With Different Ranges (100 Hz, 200 Hz, 400 Hz.....)</li> <li>• Frequency Lines: 100,200,400,800,1600</li> <li>• Frequency Resolution: 0.125 Hz to 40 Hz</li> <li>• Dynamic Range: Excess of 90 db</li> <li>• Loop Time: ≤200 ms (2 KHz, 400 lines)</li> <li>• No. of Degree of Freedom: 2 to 1000</li> <li>• Control Accuracy: ± db at 200 DOF</li> <li>• Slip Table size 800 x 800 mm with provision to attached the armature with SS threaded insert of M10 tapped hole.</li> <li>• Slip table pattenen: Magnesium slip table with M10 SS inserts with 100x100mm matrix pattern and self contained hydraulic power supply with holes.</li> </ul>
14	Electrodynamic shaker 3500 kgf	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• 3500 kgf peak sine &amp; RMS Random, 7000 kgf shock</li> <li>• 80g Acceleration (Bare table sine), 1.8m/s velocity, 51mm (pk-pk) displacement</li> <li>• 5-3000 Hz frequency, &gt;2200 Hz armature resonance.</li> </ul>
15	Swept Sine Vibration Control	<p>The equipment shall have:</p> <ul style="list-style-type: none"> <li>• Frequency Range: 0.5, 1 to 4000 Hz</li> <li>• Dynamic Range: ≥ 100 db</li> <li>• Resolution: 512, 1024, 2048 pointers per sweep</li> <li>• Control Accuracy: ± 1 db through a peak notch of 50, at one octave/min</li> <li>• Loop Time: 10 ms</li> <li>• Compression Rate: Programmable up to 3dB/Hz/sec</li> <li>• Compression Rate: Programmable up to 6000 db/s</li> <li>• Sweep Rate: Linear from 0 to 6000 Hz/min; Logarithmic form 0 to 100 octave/min.</li> <li>• Control Strategy: Single channel, multiple channel, Notch channel programmable for different levels at different sectors for each channel, correction of amplitude and frequency in each loop.</li> <li>• Profile Inputs: User must be able to enter the spectrum in the form of break points tables. Value like RMS, acceleration, velocity and displacement must be displayed when break point table is being updated. (Number of break points &gt; 100)</li> <li>• Abort: Upper and lower abort level (Programmable for different sectors)</li> <li>• Signal Display: During the test, the user must be able to see the real time display of the signal (A, V and D)</li> <li>• Sine Mode: Sweep (Single, Cycle, Dwell)</li> <li>• Linear/Log Sweep</li> <li>• COLA (a fixed output at test frequency)</li> <li>• TIP (Teat In Progress Signal)</li> <li>• Level Programmability's for acceleration, velocity, displacement and sloped acceleration.</li> <li>• Since Resonance Search, Track and Dwell</li> <li>• Test Modes <ol style="list-style-type: none"> <li>1. Search and Dwell As is resonance is detected</li> <li>2. Search then automatically dwell using the generated dwell list.</li> <li>3. Search, pause for review, edit and dwell using the edited dwell list.</li> </ol> </li> <li>• Dwell modes- fixed frequency or phase tracked resonance dwell.</li> <li>• Dwell Duration: Time or Cycles</li> <li>• Provision to find out Q factor or damping from Transfer function plot.</li> </ul>

16	The equipment shall have Stray magnetic field on the top of the working table shall be limited to 20 gauss. This can be ensured by providing degaussing coils if required.	
17	The equipment shall have Safety interlock to protect against excess displacement, over temp, over load and under & over voltage.	
18	The equipment shall have suitable to carry out resonance frequency search over a complete specified frequency range by sweeping.	
19	The equipment shall have suitable for environmental condition such as temp. 0 to 65 ° C & humidity up to 100% RH.	
20	The equipment shall have to carry out endurance vibration test & shock test at 80% rated force for 12 hours continuously.	
21	The equipment shall have facility to carry out performance & endurance test & shock test at fixed frequency, Frequency sweeps (Time base in linear /log scale)	
22	The equipment shall have facility of soft start and stop.	
23	Electro-dynamic shaker shall be simply supported and must be able to rotate through minimum 90°. So that axis of vibration can be changed to horizontal.	
24	Vibrator head shall be a light weight circular disc of minimum diameter of 150 mm with hardened. Any position to lock ogle at any angle 360° and lapped top surface with stainless steel insert for sample mounting.	
25	The equipment shall have suitable to carry out test in sine control or random control mode & resonance dwell.	
26	Power Supply	415V AC, 50 Hz,3phase.
27	Safety Features	The equipment shall have: <ul style="list-style-type: none"> <li>• High/low voltage cutoff single-phase preventer.</li> <li>• Overload relay for chamber Motor (3 phase protection).</li> <li>• Emergency stop button.</li> <li>• Overload relay for compressor (3 phase protection).</li> <li>• Miniature circuit breakers for Heating and Humidity system.</li> </ul>
28	Manual and training	<ul style="list-style-type: none"> <li>• User and maintenance manuals shall be provided.</li> <li>• Onsite training at CIRT shall be provided.</li> </ul>
29	Calibration	Onsite NABL calibration after commissioning of the machine and Calibration certificate traceable to ISO/IEC 17025 accredited laboratory shall be provided.

.....

**Conformity to Specifications:**

- i. The bidder must fill the Technical Compliance Sheet (Annexure G) and submit along with the offer.
- ii. Bidder ‘s response to all tender stipulations should clearly be defined. Bidder shall furnish specific details/ specifications of all major components, systems with Make & Model etc.
- iii. Generalise response like “As per tender specification/ Technical leaflet”, “Noted” and “accepted” or in any similar fashion is not acceptable.
- iv. In case the bidders specification deviates from tender specification, the bidder has to explain why the proposed solution is equivalent or better to the Minimum requirements of Tender specification.
- v. In case, CIRT finds any deviation which is not declared by the Bidder, CIRT reserves the right to seek clarification.



**Technical Compliance Sheet**

The technical compliance Sheet must be completed and submitted with your offer. Please ensure that all these points are covered in your offer. These will ensure that your offer is properly evaluated. Please mark "Yes" Or "NO" and specify page no. of your bid document where details or compliance has been confirmed. All technical parameters should be reflected in original OEM Brochure.

Sr. No.	Particulars		Complied / Not Complied (Yes/ No)	If deviation, please give proper justification that deviation suggested is equivalent or better	Page no. in Bid/ Reference of document in bid
#	Supply and install Vibration & Shock machine with Climatic Chamber				
A	<b>Climatic Test Chamber</b>				
1	Inside Size (minimum)	100 (L) x 100 (H) x 100 (W) cm			
2	Temperature range	(-)40 <sup>0</sup> C to (+)150 <sup>0</sup> C			
3	Resolution	0.1 °C			
4	Temperature Accuracy	(± )0.5 °C			
5	Temperature Gradient	(±) 2°C			
6	Temperature Ramp up/Ramp down	2°C/min.			
7	Humidity Range	20% Relative Humidity to 98% Relative Humidity			
8	Humidity Accuracy	±3%			
9	Humidity Gradient	±5%			
10	Insulation	High density low K factor bonded rock wool insulation to avoid the atmospheric water vapor condensation on the exterior of the unit and non-hygroscopic nature.			
		Body temperature shall be maintained in between 20°C to 35°C in extreme low & high temperature conditions.			
11	Internal Finish	18 SWG 304 grade stainless steel with completely welded finish.			
		No joints and sharp edges inside workspace.			
		All the joints shall be leak proof for prevent air & water leakage.			
12	External Finish	16 SWG GI sheet with powder coating finish. CNC based made outer body with fine finishing joints without any projection of fixtures.			

		Built in control panel provided on exterior body without any projection.			
		All Hinges & door locks are stainless steel.			
13	Air flow system	The equipment shall have air circulation within the chamber shall be laminar air flow provided with suitable capacity of fan motor and impeller for uniform distribution of temperature and humidity to maintain within specified limits.			
14	Movement	The equipment shall have: Electric powered motorized track movement shall be incorporated for easy integration of Vibration Shaker and Chamber.			
		All proper safety protections shall be incorporated.			
15	Chamber Control System	7" HMI with Microprocessor based PLC control and monitoring system for chamber, USB and Ethernet interface for communication, programming software, Software features: Graphic and Symbolic programming.			
		Numeric & graphic display of temperature, humidity pressure, time and cycle, loop, time remaining , real time and history data , help menu, auto start, print , data to import on excel format etc., 20 programs with 20 segments nested in loops minimum.			
16	Heating system	Fast responding U-shaped jacketed air heaters shall be used to achieve the desired positive temperature.			
		Air heater placed in the conditioning plenum shall be such that there is no direct radiation from the heaters on the test specimen.			
17	Humidification System	A low-pressure free vapor moisture generator using direct vaporization system shall be used for stimulating the required humidity.			
		Reservoir with automatic float switch / valve shall be provided for maintain at appropriate level for			

		continuous water supply to the humidity tank.			
		The saturated humidified air to be circulated into the workspace.			
18	De-humidification system	A refrigeration based de-humidification system to avoid the condensation forming on test specimen as well as control the lower relative humidity.			
		The desired level of lower humidity achieved by maintaining the precise dew point temperature.			
		This system shall work on refrigeration cooling control through the bare copper coils attached with the main cooling evaporation coil.			
19	Control instrumentation	Programmable microprocessor powerful PID controller for temperature with digital display, No. of programs & segments each could be stored in ramp & soak period settable in hours & minutes.			
		No. of loops for re-appear the program.			
		Control readout of actual and set-point values & calibration capability for actual and set values.			
		PC communication with user friendly software.			
		RS232/485 communication port for operating the chamber through PC as well as data logging facility.			
		Tubular display & graphical display shall be provided with complete history printing & storing facility.			
20	Cooling system (Refrigeration)	Air cooled condenser with single stage refrigeration system with ozone friendly CFC free or equivalent refrigerant.			
		Semi sealed compressor for low temperature. The reputed make compressor shall be used in the system.			
		Compressor mounted with vibration free bushes.			
		All the copper lines made such as vibration free eliminators.			

		Liquid receiver & Filter well balanced Hi cool (CE approved) Condenser fan with safety grill.			
		All the refrigeration components with Pressure gauge, High pressure & Low pressure cut off switch, expansion valves etc.			
		Ready hose connectors for pressure measuring lines & HP/ LP switch.			
		The evaporator coil shall be in grooved type anti-corrosive fins for using in high humidity conditions.			
		The entire refrigeration system with adequate safety protection against excessive and high/ low pressure cut-off switch configured with compressor power supply to prevent the damages.			
		Pressure gauges to read the standby & running pressure.			
21	Temperature and Humidity Sensor	PT100 (RTD) sensor shall be used for temperature. The temperature reading accuracy shall be $\pm 0.5$ °C in range between -40°C to +120°C. PT100 sensor shall be made of 304 grade stainless steel solid materials.			
		To sense the relative humidity Hygroclip sensor shall be provided to transmit the humidity for direct RH% reading on the screen or on the digital controller.			
		The Humidity sensor reading accuracy shall be $\pm 5$ % RH in range between 20% RH to 95% RH.			
22	Door & Silicon Gasket	Robust type chrome finished heavy duty hinges shall be fitted on the right-hand side of the chamber with full front opening single door.			
		Specially designed silicon gasket on chamber and on the door to fit and joint properly interlock inner and outer chamber.			
		To close the door suitable size of airtight locking arrangements shall be provided. Both double lined gaskets shall be provided without any corner joints.			

23	Viewing window & Lamp	The multi plane window consist of toughened clear glass sealed with silicone and separated by spacers to form a completely vacuum window.			
		Defogger heaters provided with a control to activate in cold & humidity conditions. Suitable lighting shall be provided to view the specimen under test.			
		In case temperature range is in extreme conditions the lamp fixed on window frame from outside with stainless steel covering fixture.			
24	Electrical Components	Single Phase Preventer (SPP) to prevent form single phasing, high and low voltage control, variable set for minimum and maximum output phase sequence to protect form reverse directions of fan motors and compressors.			
		Contactors shall be used for fan motor, compressor & heater main circuit.			
		MCCB 3 pole with NO/NC connectors (Fault/Trip) shall be used for overload protection and short circuit trip. Solid-state Relays for Dry heater & Wet Heater.			
		Individual MCB's for main circuit, Dry heater & Wet Heater.			
		Compressors start Delay Device Auto restart delay in power fail or voltage fluctuations.			
25	Safety Features	High temperature digital safety controller with audio & light Warning signal for the protection of the specimen.			
		High/low voltage cutoff single-phase preventer.			
		Overload relay for chamber Motor (3 phase protection).			
		Emergency stop button.			
		Overload relay for compressor (3 phase protection).			
		Oil return device in the refrigeration system to prevent oil flow in lines.			
		High Pressure & Low pressure cut off switch in refrigeration			
		Pressure gauge to monitor the refrigerant volume in PSIG			

		Water level float switch for cut-off the wet heater supply.			
		Water level indicator to know the water level in the reservoir.			
		Miniature circuit breakers for Heating and Humidity system.			
26	Power Supply	415V AC, 50 Hz, 3phase.			
27	Shelves & Trays	2 Nos. SS shelves shall be provided.			
28	Port Hole	1 no 50mm diameters with silicon plug shall be provided.			

**A) Vibration & Shock test System Specification:**

Sr. No.	Particulars		Complied / Not Complied (Yes/ No)	If deviation, please give proper justification that deviation suggested is equivalent or better	Page no. in Bid/ Reference of document in bid
1	Minimum sine vector force	3500 Kgf with suitable random force rating			
2	Displacement amplitude range (peak to peak)	0 to 76 mm Peak to Peak			
3	Required Acceleration Level in g	0 to 60 g			
4	Required Velocity in m/Sec	0 – 1.8 m/sec			
5	Frequency Range of Operation Shaker Cooling System	5Hz– 3 KHz Air cooled			
6	Pay Load capacity	60 kg (minimum)			
7	Power supply	440 V AC $\pm$ 10%, 50 Hz, 3 Phase, or single phase 230VAC $\pm$ 10%, 50 Hz			
8	Type of Cooling	The equipment shall have Forced Air Cooling using a Centrifugal Blower system			
9	SINE Software, Random Software, shock Test Software, Re calibration Software				
10	Mechanism	Suction type			
11	Air delivery	The equipment shall have Horizontal direction with acoustic silencer			
12	Safety interlock	The equipment shall have Propeller direction			
13	Shaker Control Application Software: Random	Frequency Range: With Different Ranges (100 Hz, 200 Hz, 400 Hz.....)			
		Frequency Lines: 100,200,400,800,1600			
		Frequency Resolution: 0.125 Hz to 40 Hz			
		Dynamic Range: Excess of 90 db			

	Vibration Control	• Loop Time: $\leq 200$ ms (2 KHz, 400 lines)			
		No. of Degree of Freedom: 2 to 1000 • Control Accuracy: $\pm$ db at 200 DOF			
		Slip Table Size 800 x 800 Slip Table size 800 x 800 mm with provision to attached the armature with SS threaded insert of M10 tapped hole.			
		Slip table pateren: Magnesium slip table with M10 SS inserts with 100x100mm matrix pattern and self contained hydraulic power supply with holes			
14	Electrodynamic shaker 3500 kgf	3500 kgf peak sine & RMS Random, 7000 kgf shock			
		80g Acceleration (Bare table sine), 1.8m/s velocity, 51mm (pk-pk) displacement 5-3000 Hz frequency, $>2200$ Hz armature resonance.			
15	Swept Sine Vibration Control	Frequency Range: 0.5 to 4000 Hz			
		Dynamic Range: $\geq 100$ db			
		Resolution: 512, 1024, 2048 pointers per sweep			
		Control Accuracy: $\pm 1$ db through a peak notch of 50, at one octave/min			
		Loop Time: 10 ms			
		Compression Rate: Programmable up to 3dB/Hz/sec			
		Compression Rate: Programmable up to 6000 db/s			
		Sweep Rate: Linear from 0 to 6000 Hz/min; Logarithmic form 0 to 100 octave/min.			
		Control Strategy: Single channel, multiple channel, Notch channel programmable for different levels at different sectors for each channel, correction of amplitude and frequency in each loop.			
		Profile Inputs: User must be able to enter the spectrum in the form of break points tables. Value like RMS, acceleration, velocity and displacement must be displayed when break point table is being updated. (Number of break points $> 100$ )			
		Abort: Upper and lower abort level (Programmable for different sectors)			
Signal Display: During the test, the user must be able to see the real time display of the signal (A, V and D)					
Sine Mode: Sweep (Single, Cycle, Dwell)					

		Linear/Log Sweep			
		COLA (a fixed output at test frequency)			
		TIP (Teat In Progress Signal)			
		Level Programmability's for acceleration, velocity, displacement and sloped acceleration			
		Since Resonance Search, Track and Dwell			
		Test Modes Search and Dwell As is resonance is detected. Search then automatically dwell using the generated dwell list. Search, pause for review, edit and dwell using the edited dwell list.			
		Dwell modes- fixed frequency or phase tracked resonance dwell			
		Dwell Duration: Time or Cycles			
		Provision to find out Q factor or damping from Transfer function plot.			
16	The equipment shall have Stray magnetic field on the top of the working table shall be limited to 20 gauss. This can be ensured by providing degaussing coils if required.				
17	The equipment shall have Safety interlock to protect against excess displacement, over temp, over load and under & over voltage.				
18	The equipment shall have suitable to carry out resonance frequency search over a complete specified frequency range by sweeping.				
19	The equipment shall have suitable for environmental condition such as temp. 0 to 65 ° C & humidity up to 100% RH.				
20	The equipment shall have to carry out endurance vibration test & shock test at 80% rated force for 12 hours continuously.				
21	The equipment shall have facility to carry out performance & endurance test & shock test at fixed frequency, Frequency sweeps (Time base in linear /log scale)				
22	The equipment shall have facility of soft start and stop.				
23	Electro-dynamic shaker shall be simply supported and must be able to rotate through minimum 90°. So that axis of vibration can be changed to horizontal.				
24	Vibrator head shall be a light weight circular disc of minimum diameter of 150 mm with hardened. Any position to lock ogle at any angle 360° and lapped top surface with stainless steel insert for sample mounting.				
25	The equipment shall have suitable to carry out test in sine control or random control mode & resonance dwell.				
26	Safety Features	High/low voltage cutoff single-phase preventer.			
		Overload relay for chamber Motor (3 phase protection).			
		Emergency stop button			
		Overload relay for compressor (3 phase protection).			
		Miniature circuit breakers for Heating and Humidity system.			



27	<b>Calibration</b> Onsite NABL calibration after commissioning of the machine and Calibration certificate traceable to ISO/IEC 17025 accredited laboratory shall be provided.			
28	<b><u>Manuals</u></b> Manufacturer shall provide Three copies (both hard copy and soft copy) of detailed user manuals (operating and maintenance) with complete circuit diagrams (mechanical, electronic, and electrical).			
29	<b><u>Training:</u></b> Onsite training at CIRT shall be provided			
30	<b><u>Warranty:</u></b> Comprehensive warranty for 1 year from the date of commissioning of the equipment.			
31	<b><u>Customer Service Support (after Warranty period) -</u></b> Customer Service Support shall be provided for minimum period of <b>9 years after the initial warranty period of 1 years.</b>			
32	<b><u>Spares and consumables:</u></b>			
33	Manufacturer shall provide a sufficient spares and consumables for smooth and trouble-free operation for a period of 1 years during warranty period.			
34	Spares & Consumables support for <b>9 years after warranty period.</b>			
35	<b><u>Pre-delivery Inspection:</u></b> Manufacturer shall have to arrange Inspection of equipment before delivery for validation & technical evaluation of test results.			
36	<b><u>Delivery:</u></b> Equipment/ Test Rigs shall be supplied to CIRT within a period of 120 days from the date of acceptance of P.O.			

**UNDERTAKING TO BE SUBMITTED IN CASE BIDDER IS TEST  
EQUIPMENT MANUFACTURER**

*(To be submitted on the letterhead of the equipment manufacturer in case bid is submitted by test  
equipment manufacturer)*

I / We hereby certify and confirm that we M/s. .... (Name of the Bidder) here by give undertaking that we will extend our full warranty, maintenance service and supply of spares during warranty period and customer support service period, in accordance with terms and conditions of the tender document.

Yours faithfully,

(Signature, name, and designation of the authorized signatory)

For and on behalf of .....

(Stamp of test equipment manufacturer)

**UNDERTAKING TO BE SUBMITTED BY TEST EQUIPMENT  
MANUFACTURER IN CASE BIDDER IS DISTRIBUTOR OF TEST  
EQUIPMENT MANUFACTURER**

*(To be submitted on the letterhead of the equipment manufacturer)*

I / We hereby certify and confirm that we M/s. .... (Name of the Test equipment manufacturer) here by give undertaking that we will extend our full warranty, maintenance service and supply of spares during warranty period and customer support service period, in accordance with terms and conditions of the tender document.

I/ We also certify that M/s. .... (Name of the Distributor) is our authorized distributor from last -----years. M/s. ----- (Name of the Distributor) is associated with us and have expertise of installation, commissioning, maintenance and repair in most effective manner.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of .....

(Stamp of test equipment manufacturer)

(to be printed in letter head)

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**Self-Certification under preference to Make in India order Certificate**

In line with Government Public Procurement Order No. P-45021/2/2017-PP(BE-II) dated 16.9.2020 and its amendments, if any we hereby certify that we M/s \_\_\_\_\_ are local supplier meeting the requirement of minimum local content i.e. \_\_\_\_\_% as defined in above orders for the material against Tender No.....dated..... Details of location at which local value addition will be made as follows: \_\_\_\_\_.

We also understand, false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Thanking You,

Signature with date:

Name:

Designation:

Bidder Seal

(to be printed in letter head)

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**Self-Certification to be submitted by Non-local suppliers**

We hereby declare that we are non-local suppliers ----- with factory of manufacturing unit at address as follows -----.

We also understand, false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Thanking You,

\_\_\_\_\_ Signature with date:

Name:

Designation:

Bidder Seal

**Format for submission of letter from purchaser of** Vibration & Shock machine with Climatic Chamber  
**(To be submitted on the letterhead of purchaser)**

We, M/s. \_\_\_\_\_ have purchased Vibration & Shock machine with Climatic Chamber from M/s. \_\_\_\_\_ in the year \_\_\_\_\_. Purchased Vibration & Shock machine with Climatic Chamber in the year \_\_\_\_\_ is currently operating satisfactorily.

Signature of authorised signatory of purchaser with date:

Name:

Designation:

Company Name:

Seal of Purchaser Company :